

Firmware version 1.3.0 for the Matriarch contains a number of new features as well as some bug fixes.

HOW TO UPDATE YOUR FIRMWARE

1. Connect a USB cable from Matriarch to your computer.
2. Open your SysEx sending software.
NOTE: We recommend downloading Bome SendSX for Windows or SysEx Librarian for Mac.
3. In the SysEx software, select Matriarch as your MIDI output device.
NOTE: In SysEx Librarian, this is located in the drop-down menu at the top of the application window.
In Bome SendSX, this is located in the MIDI OUT menu on the menu bar.
4. Select the SysEx file “Matriarch_FIRMWARE_INVALIDATE.syx” included with this download and click Send.
On the Matriarch, the Arp Rate LED will start blinking red/green.
5. In the SysEx sending software, re-select Matriarch as your MIDI output device (Matriarch reboots and needs to be re-selected after INVALIDATE).
6. Select the SysEx file “Matriarch_FIRMWARE_ERASE.syx” included with this download and click Send.
On the Matriarch, the Arp Rate LED will blink green. Matriarch is now ready for new firmware.
7. Select the new firmware file “Matriarch_Firmware_v1_3_0.syx” included with this download and click Send.
The Matriarch Arp Rate LED will blink yellow-orange while receiving.
8. You're done! Matriarch will reboot to the new firmware when done.

TROUBLESHOOTING

If the Matriarch Arp Rate LED is still blinking yellow-orange after the firmware has finished sending, or if the Arp Rate LED stops blinking and the unit does not reboot automatically once firmware has finished sending, you should try again.

Turn the Matriarch power off and on again, disconnect and reconnect the USB cable, and then start over at step 1.

You can retry as many times as necessary and it will not hurt the hardware. If it doesn't work after two or three tries, contact Moog Technical Support for further assistance.

If you have any questions or trouble with your update please contact techsupport@moogmusic.com.

V1.3.0 RELEASE NOTES

HIGHLIGHTS

With new global setting 5.3 you can switch between four different velocity curves. If you tend to play keys with a harder touch, try switching to LINEAR or STRETCHED to more easily produce softer velocity values. Alternatively, switching to COMPRESSED will make it so that higher velocity values are produced with less physical effort.

The Pitch Wheel setting will now come out of the KB CV Out alongside the keyboard information. Try using the KB CV Out to modulate the STEREO DELAY TIME 1 input to create longer delay times when you play higher notes on the keyboard. While holding a note, moving the Pitch Wheel will not only adjust the pitch but now also modulate the delay time as well.

CHANGES SINCE V1.2.3:

- PPQN IN and OUT improvements.
- CC94 added to allow switching voice modes over MIDI.
- KB GATE OUT will now follow MULTI TRIG selection.
- Octave Transpose controls are now more responsive.
- Improved response to the TIME 1 IN CV of the Stereo Delay when synced.
- KB VEL OUT (Keyboard Velocity CV Out), KB AT OUT (Keyboard Aftertouch CV Out), KB CV OUT (Keyboard CV Out), and KB GATE OUT (Keyboard Gate Out) correctly update when MIDI notes are played.
- Added Pitch Wheel information to the KB CV Out (Keyboard CV Out).
- Global setting 4.1 – Delayed Keyboard Octave Shift has been improved and now also applies to the keyboard CV output.
- Removed spurious MIDI messaging when HOLD function was engaged.

Previous changes

CHANGES SINCE V1.2.2:

- Fixed tap-tempo regression (resets clock division to quarter notes).
- Fix for latched arp/seq playback stopping when switching MODE between Arp and Seq.
- Increased maximum clock output rate to > 500Hz.
- Adaptive tempo filtering (more smoothing of tempo changes when MIDI synced, less for analog sync).
- Increased “box check” to prevent tempo pot from asserting a change unintentionally when pot is high.

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V1.3.0 RELEASE NOTES

CHANGES SINCE V1.2.0:

- Added clock-input jitter reduction:
 - Fixes missed/dropped Clock Out pulses when synced to USB MIDI clock
 - Fixes pitch warble in analog delay when delay is synced to USB MIDI clock
- Arp/Seq switches automatically from MIDI Sync to Internal Clock when MIDI clock is stopped.
- Delay Spacing works correctly when SYNC is on.
- Turning off SUSTAIN/HOLD doesn't end notes that should stay on.
- Increased hardware timeout between gate re-triggers (from 2ms to 4ms) to prevent outlying instances of stuck envelopes in Multi Trig mode.
- Fixed Delay Tap Tempo.

CHANGES SINCE V1.1.0:

- Synchronization and Timing Engine update - Analog Clock in/out and MIDI Clock all remain tightly in phase now, eliminating the possibility of drift between these clocks which was present in earlier firmware.
- New function when step recording: hold **SHIFT** + press the **TIE** button to duplicate the current step. This function copies the note(s) from the current step to the next step and ties them together, advancing the sequence by one step for each **SHIFT** + **TIE** press. This makes it easy to program longer notes and chords into your sequences.
- New Global setting (5.1) "Arp/Seq CV Out Mirrors KB CV": If ON, then the Arp/Seq **CV OUT**, **GATE OUT**, and **VEL OUT** jacks on the front panel will output the same voltages as the rear-panel **KB CV OUT**, **KB GATE OUT**, and **KB VEL OUT** jacks, whenever the Arp/Sequencer is not running.
- New Behavior: **HOLD** button acts like a Sustain Pedal (KB Hold) when Arp/Seq is not running.
- The default setting for CLOCK INPUT PPQN and CLOCK OUTPUT PPQN was changed from expecting/outputting a clock every 8th note, to expecting/outputting a clock every 16th note (changed from 2 PPQN to 4 PPQN).
- Arp/Sequencer Gate Length can be adjusted using MIDI CC 106. Value 64 = 50% gate length (default).
- Matriarch no longer outputs unexpected streams of MIDI CC/NRPN data.
- PPQN In/Out settings now match documentation in manual.
- External Analog Clock overrides MIDI Sync.
- Arp/Seq **PLAY** button does not output MIDI CC 73 (can still respond to it if necessary).
 - *Improves compatibility with other Grandmother/Matriarchs.*
- Changed MIDI Clock Output default setting to "Off".
- Fix for stuck envelopes (was due to retriggering faster than a certain minimum, easy to do in multi-trig mode).
- Can now edit global settings via MIDI SysEx messages (documented below).

V1.3.0 RELEASE NOTES

NEW GLOBAL SETTINGS AND FUNCTIONS:

5.3 MIDI Velocity Curves

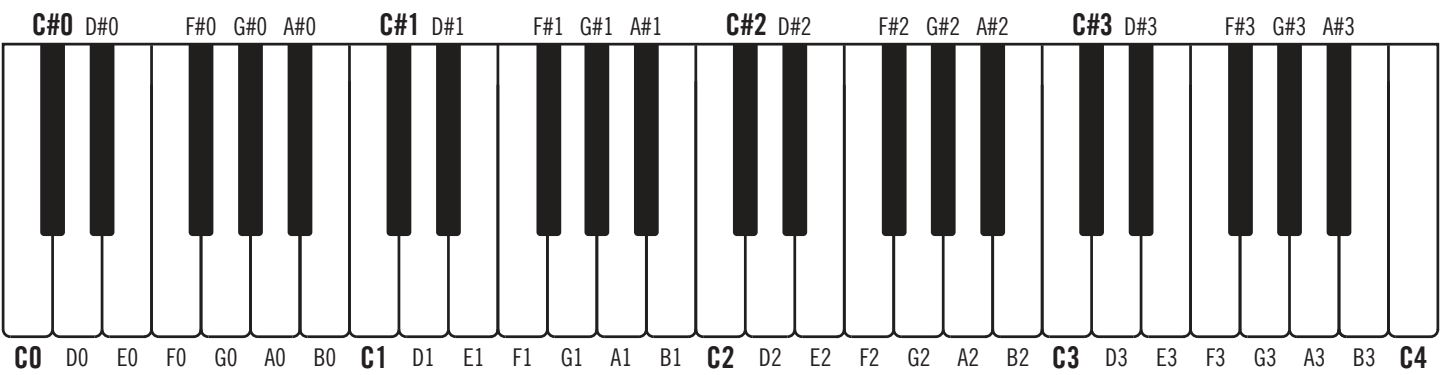
GLOBAL SETTINGS

Most Matriarch front-panel controls relate to creating sound. Below the surface, there is another level of parameters known as the Global Settings, which determine how the instrument operates, and how it can connect and interact with other electronic instruments and audio equipment.

To access Matriarch's Global Settings, simultaneously press and hold the **HOLD [SHIFT]** button located in the Left-Hand Controller and the **SYNC ENABLE** button located in Oscillator 1 until the **SYNC ENABLE** button begins to blink. This indicates that Matriarch is in the Global Settings edit mode. Now you can use the keyboard commands listed below to make any needed changes to the Global Settings. The **SYNC ENABLE** button will blink a specific number of times to indicate which Global Setting is currently selected. When you have finished making any changes, simply press the **SYNC ENABLE** button to exit the Global Settings edit mode.

Once you are in the Global Settings edit mode, you can freely select different groups and parameters using the black keys, and can switch the value of the selected parameters by using the white keys, until you press the **SYNC ENABLE** button to exit. Double-tapping on a white key will both update the setting and exit the Global Settings edit mode simultaneously.

NOTE: Global Settings are retained even when the power has been turned off.



HERE'S HOW IT WORKS:

Global Settings are organized in groups of ten. An individual parameter in the chosen group is selected using one of the lower 10 black keys, starting with **C#0**. The white keys, starting with **C0**, are used to set the value of the chosen parameter. The first 10 parameters are in the default group, and no group selection is required. Additional groups are selected using one of the upper black keys, starting with **C#2**. To access these additional parameters, hold down the Group Select key while pressing the individual Parameter Select key.

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Global Settings Group 5	Group Select Key	Parameter Select Key	Sync Enable Button Blinks
5.3 MIDI Velocity Curves	A#2	F#0	5 x / 3 x
This feature allows the user to select a variety of keyboard velocity response curves. There are 4 options available. Use the following white keys to select the desired response curve: BASE (C0), LINEAR (D0), STRETCHED (E0), or COMPRESSED (F0). The default is BASE.			

KNOWN OUTSTANDING ISSUES AS OF V1.3.0:

- Global: Delay Sync CV Bend - Can be stepped/quantized when it should be smooth and continuous.
- Global: Keyed Timing Reset - Does not work while HOLD is active.
- Global: Sequence Keyed Restart - Seems to have no effect.
- Global: Sequence Random Repeat - Seems to have no effect.
- Global: Load Default Settings - After performing this command, global mode acts like A#3 is constantly being held down. Globals don't work again until power cycle.
- Send Program Change - Seems to have no effect.
- Paraphonic Mixer Gate Length - Mixer gate can stay high longer than keys are pressed.
- ARP sends Sustain CC while Hold is active - HOLD should send sustain CC when Arp/Seq is inactive.